

REMARKS

Claims 7-11 are pending in the present application. In the Office Action claims 7, 10 and 11 were rejected under 35 U.S.C. 102(a) as being anticipated by Letertre publication and claims 8 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Letertre in view of Vinod publication. These rejections are respectfully traversed.

According to the M.P.E.P., a claim is anticipated under 35 U.S.C. § 102(a) only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.¹ In particular, claim 7 recites a method for manufacturing SiCOI substrate, the method comprising, inter alia, “supplying an initial substrate comprising a SiC support bearing a layer of SiO₂ whereon a thin layer of SiC is transferred... and conducting an epitaxy of SiC on the thin layer of SiC at a temperature from 1450°C to 1550°C.”

Letertre does not anticipate claim 1 because it does not describe all limitations of claim 7. First, Letertre does not disclose, teach or even suggest SiO₂ as a bonding layer between SiC substrate and the thin layer of SiC. In Introduction on page 151, Letertre mentions that it is known to use oxide layer as a bonding layer between SiC substrate and thin SiC film. The reference, however, does not mention that such oxide layer may be Silicon Oxide (SiO₂) are recited in claim 7 of the present application. Moreover, in next sentence, Letertre propose a new method for fabricating SiCOI substrate, which does not involve oxide as bonding layer. In contrast, Letertre describes tungsten silicide (WSi₂) as bonding agent of choice, thereby teaching away from the present invention.

¹ Manual of Patent Examining Procedure (MPEP) § 2131. See also *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Furthermore, Leterter fails to describe epitaxy of SiC on the thin layer of SiC [which are bonded using SiO₂] at a temperature from 1450°C to 1550°C. To that end, the present application teaches at page 5, lines 18-25 of the specification the following:

“The corresponding technical literature does not apparently report on research on 6H or 4H polytype SiC epitaxy on SiCOI substrates. This is due to the fact that it is acknowledged that, for temperatures of up to 1350 °C, the quality of 6H and 4H polytype epitaxy will be poor (case of epitaxy on SiCOI with silicon support plate). In addition, over 1400 °C the oxide will be degraded, i.e. destroyed, or recrystallised.”

For this reason, the results obtained by the inventors of the present application were unexpected, as reported in page 5, lines 28 to page 6, line 9 of the specification:

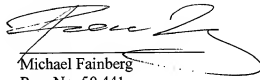
“However, the inventors of the present invention succeeded in carrying out epitaxy on all these different types of materials and unexpectedly obtained several satisfactory results. The oxide was not degraded at high temperatures (1410 °C.-1600 °C.) when the epitaxy was conducted on SiCOI substrates formed from an SiC support successively bearing a silicon oxide layer and a thin SiC layer, making it possible to produce high quality epitaxy, comparable to epitaxy on solid sic. The inventors also conducted 6H and 4H polytype SiC epitaxy on SiCOI substrates wherein the support is made of silicon. Encouraging results were obtained.”

Accordingly, Leterter fails to anticipate claim 7 of the present application. As to dependent claims 8-11, the argument set forth above is equally applicable here, because dependent claim incorporate all limitations of claim 7.

Vinod publication also fails to describe the aforementioned limitations of claim 7 and therefore, does not preclude patentability of the present application.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance. Favorable disposition to the effect is respectfully requested. If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Fainberg", with a long horizontal flourish extending to the right.

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